

REPORT

(8)

OF THE

MEETING held in the ROOMS of the ROYAL SOCIETY,

On March 31st, 1884,

FOR THE PURPOSE OF FORMING A SOCIETY FOR THE

BIOLOGICAL INVESTIGATION OF THE COASTS OF
THE UNITED KINGDOM.



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KINGDOM.

PROFESSOR HUXLEY, President of the Royal Society, who presided, in opening the proceedings, said: A great number of gentlemen who would have been glad to be present in support of the object of the meeting have been unable to appear. The Right Hon. Joseph Chamberlain, M.P., has written a letter cordially approving of the objects of the Society, and hoping it will be strongly supported. Mr. Burdett-Coutts, who has taken a very great interest in the Fisheries Exhibition, expresses his warm approval of the scheme, and offers a handsome subscription. Mr. Duff, M.P., who is greatly interested in sea-fisheries, and the Marquis of Hamilton, one of the most active members of the Fisheries Exhibition Commission, also write to express their regret at being detained by business so that they cannot be here to-day. There are also letters from Lord Derby, from Sir Thomas Dakin (Prime Warden of the Fishmongers Company), and from Dr. Dohrn, of Naples, who has carried out a similar scheme to that which this meeting has in view, viz., the celebrated Zoological Station of Naples. Dr. Dohrn speaks of the project with warm approval. Admiral Sir Erasmus Ommaney and Dr. Acland, of Oxford, write to express their regret at being

absent, the movement being one in which they take great interest. In supporting what I understand to be the object of the proposal before us, which I may say is not in my hands, but chiefly in those of Professor Lankester, I simply express the interest in it which Biologists feel, and the desire of the Royal Society to foster the new undertaking, which appears to promise well for the good of science. The establishment of laboratories for observation of the *fauna* and *flora* of the sea has now taken place in most civilized countries, and is, in fact, a necessary consequence of the great change which has taken place in the whole of the aims of biological science. The study of development commenced in a serious way half a century ago, and the further progress and ramifications of that line of enquiry, which has been extended to the mode of existence of all living things by Mr. Darwin, has caused a complete change in the methods of biological science, and consequently, in the methods by which biological investigation is pursued. In order to understand the living being now, it is no longer sufficient to be acquainted with its outside, as in the days of our forefathers, or even with its inside, so far as obvious anatomy is concerned, as was the case with the immediately preceding generation. We now, in order to understand the being, relations and affinities of an animal, have to go back through the whole course of existence beyond, in order to trace out the successive stages of development from the egg; and this can now be done with a precision and accuracy which in my young days we had no conception of. But though from a purely scientific point of view this is one great reason for establishing laboratories of the kind now proposed, a more directly practical reason exists. We possess great fisheries, which are more or less regulated by legislation, and which are of great importance to very large masses of the population. Hitherto, certainly within the last thirty years, such regulations have been made in an almost entirely haphazard manner, because of the want of knowledge of the habits, the mode of life, the mode of production &c., of the

animals which are economically useful. At the present time it is within my knowledge that a great deal of vehement opposition to particular modes of fishing has been due to the absolute ignorance of the fishing population of some of the primary facts of the mode of life and reproduction of our food fishes; and it is of essential importance that those who wish to regulate fisheries should rest their arguments and their reasonings upon a definite and solid foundation, and upon a complete knowledge and sound observation of the mode of life and development, and so forth, of the animals which constitute the staple of our fishing wealth. These are the two objects which the proposed Society has in view. I wish to say very emphatically that in my opinion there is no possibility of any rivalry or conflict of aims between the Society, which is now to be founded, and the one whose formation was announced by H.R.H. THE PRINCE OF WALES, at the meeting of the Committee of the International Fisheries Exhibition, the other day, the object of which was to be simply practical, in the ordinary sense of the word, and related to the collection of statistics, the condition of fishermen, and so on. An important part of the functions of the Royal Fisheries Society, would be an enquiry into the habits and modes of life of food fishes, and I sincerely trust that, when both Societies are established, our Biological Society, so far from being a hindrance or rival to the larger Society, will be only too ready to take up that particular part of the work germane to its purpose, viz., the habits and mode of life of the food fishes, so that the two societies will be able to work in harmony towards one common end.

The CHAIRMAN then called upon the DUKE OF ARGYLL to move the first resolution as follows:—"That in the opinion of this meeting there is an urgent want of one or more laboratories on the British Coast similar to those existing in France, Austria and America, where accurate researches may be carried on leading to the improvement of zoological and botanical science, and to an increase of our knowledge as regards the food, life, conditions and habits of British food fishes, and molluscs in

particular, and the animal and vegetable resources of the sea in general.”

THE DUKE OF ARGYLL, said: I consider it a great honour to have the privilege of moving this resolution. I suppose that the fact of our being called together to-day to form a Society implies a discovery on the part of those who have taken the lead in the matter that the work is not likely to be taken out of their hands. I mean out of the hands of voluntary societies by the Government. I am afraid that the British Government has always stood behind other Governments, whether monarchical or republican, in the promotion of scientific discovery. In America, I believe, the Government takes a more active and direct part in the promotion of biological and other scientific discovery. At the same time, on the whole, perhaps, we have not much reason to complain, for in recent years the expenditure of the English Government on purely scientific objects has been very large, and I have been long enough a member of Governments to know that every year, when the Chancellor of the Exchequer comes to make up his budget, there is considerable pressure brought to bear upon him in the matter of reduction of taxation, and of the growing burden of the Civil Service estimates, and therefore, though after a time we may hope for the assistance of the Government, yet it is hardly to be expected that the Government will take this enterprise out of our hands at once. At the close of the last Fisheries Exhibition, I had the pleasure of being present at a conference where a hope was expressed that some portion of the surplus—then expected to be a large one—from the Fisheries Exhibition might possibly be applied to this purpose. You have all seen, from a speech of the Prince of Wales, that a very large part of the latter fund is likely to be applied to another purpose, which is no doubt most legitimate, and which I admit to be excellent, namely, the support of the widows and orphans of those fishermen who lose their lives on our coasts. Therefore we cannot look to this source for funds. Now, coming to the terms of the resolution, and

to the objects which have been explained by Professor Huxley, I notice that there are mixed together in this resolution the desire to contribute to the economic uses of science, and to the purposes of pure biological research. I feel some doubt whether, on the mere ground of economical application, the Society will be necessary. Economic interests can take care of themselves. There are already many agencies in this country through which most of the facts can be ascertained as regards our food fishes. Some have been already ascertained by our distinguished President (Professor Huxley), and a paper has been contributed lately to the Royal Society by Professor Ewart in relation to one of the most important questions connected with the economics of food fishes, viz., the spawning of the herring. It is quite true that a great many of the objections which have been made to the operation of certain modes of fishing have been entirely due to mistaken ideas as to natural history, as, for instance, the supposed loss caused to the spawn of the herring by the system of fishing known as trawling. A good number of my own people have been for centuries almost entirely dependent upon the herring, and, strange to say, within the last twenty years the shoals of herring have almost deserted the upper portion of Loch Fyne, where there had been for generations most lucrative fishing. The poor fishermen hold that this desertion is owing to the employment of a special mode of fishing, but it really arises from causes which no man knows, as yet. These poor people believe that this decline in the yield of the herring is due to the new mode of fishing introduced twenty-five years ago, and which is locally termed "trawling," though totally different from what is termed trawling in England. It is, really, fishing by the use of a Seine net. The fishermen think that trawling breaks the shoals, scaring the herring and intercepting their passage to Loch Fyne. Another objection is, that a Seine net drags up quantities of spawn, but this is found to be impossible, for the spawn shed on a stone adheres firmly to it, and the action of the trawl net cannot possibly disturb the

spawn, which has been discovered clearly to be deposited by the female fish so as all to adhere to the bottom.

I am strongly of opinion, that in starting our Society, we should in the main look to the interests of biology as a science. For my own part, I can sincerely say that I came here to move this resolution as a means of promoting biological research. I look upon biology as by far the highest of all the branches of natural science. I know that there are some persons who will not accept that proposition. Some prefer the more exact sciences, in which they can obtain results supported by positive demonstration, and capable of methodical proof. There are many persons who decry researches in biology on the ground that they are less certain and exact, and that they are accompanied very often by hypotheses not capable of demonstration. I may say that I have no sympathy with that feeling. You cannot in the pursuit of science get rid of hypotheses. They are absolute necessities, and instruments of research. The experiments conducted by our new Society will go far to prove or disprove many of the hypotheses which are held in respect to the origin and development of life. I remember thirty years ago reading in a very remarkable book, which made a great sensation at the time—a book written by Hugh Miller, a man of considerable genius, not only on account of his command of literary style, but also on account of that which Professor Tyndall has so much emphasised, “the Scientific use of the Imagination”; I remember, I say, seeing in this book, which was published some six or ten years before Darwin’s “Origin of Species,” and when the author had to deal with the theory of Descent in the older forms in which it appears in the “Vestiges of Creation,” that the author ventured to suggest that the flat fishes, showed every indication of being a degenerate branch of the round fishes. I thought at the time that that was one of the wildest theories that could be conceived. It was connected with the recently revived theory of possible degradation from a higher organization. It now turns out from various observations in aquaria in America,

Sweden, and elsewhere, that this strange imagination was perfectly correct, and that there is good evidence for the belief that the flat fishes have been derived from the round fishes. The young of the common flounder I believe is born or hatched in the round condition. This is a remarkable indication of how pursuits such as are contemplated by this Society may be of the greatest assistance to scientific men in regard to the history of life.

Granting that biology is one of the very highest branches of natural science, I think I am right in saying that the sea is the area in which and out of which we can best get at some of the secrets of organic life. The sea, I may say, is more rich in the variety of forms of life than the land. I sometimes use the dredge from my yacht, and I never empty the contents of the dredge without standing in astonishment at the enormous fertility and variety of life brought to the surface—fishes, crustacea, and zoophytes, of every sort, and the lowest forms of sponge-life are brought up at hap-hazard, with immense numbers of molluscs and cuttle-fishes upon almost every occasion. It is impossible in these circumstances not to be struck with the immense fertility of the sea. There are special circumstances affecting marine life which make it an especially valuable field for observation. Many specimens are almost crystalline in transparency, and one can see the insides of the animals without wounding their outsides; there is thus this great advantage, that in the study of biology we get rid of those painful discussions which have been raised in regard to vivisection, because, quick as the sympathies of modern society are with every form of suffering, it has not yet occurred to any one to object to the vivisection of a jelly fish. I hope, and believe, that by the operations of a society like that which it is proposed to establish, some of the most important questions of physiology may be settled without vivisection.

The Right Hon. Sir LYON PLAYFAIR, K.C.B., seconded the resolution. He said—The motion is one which commands my

heartly sympathy. It is an extraordinary fact that while other nations, having far less interest in the sea than the United Kingdom, have established, either by private generosity or by public aid, laboratories for the study of marine life, England has not made even a beginning in this important work. The need for such laboratories is recognised, and an effort has lately been made in Scotland to found one, which already promises success. Though the promise of practical utility from such laboratories is very great, that is not the first or the only thing to be considered. Laboratories of this kind, in which the habits of all kinds of marine life should be studied, ought primarily to be established—not with a view to practical uses, but with the main purpose of advancing science for its own sake. Science so studied rewards a nation a thousandfold in the most unexpected practical applications; but without science there are no applications. It is only when the streams of science are full that their overflowing produces fertility to the lands upon their banks. The marine laboratories, such as those we wish to see founded, should not primarily be established to bring an increased supply of fish to our frying pans and fish kettles. Their main purpose should be to examine the development and habits of all forms of marine life, so as to give the biologist a better insight into the laws which govern their existence. I would take as an example the laboratory of my friend Mr. Agassiz, at Newport, in Rhode Island. He is a man of ample fortune, and spends it nobly in the advancement of science. His laboratory for studying marine biology is purely a scientific one, and the idea of practical utility has, probably, never crossed his brain. Yet it is one of the invariable consequences of the fulness of science that it does reward the nation or individual who prosecutes it in a disinterested spirit with many material advantages. Perhaps you will allow me to draw an illustration from my frequent visits to America of how science can, and does, repay the study of marine life. The American Government gives much support to a Commission of Fisheries, under the presidency of Professor Baird. The

Commission's object in this case is practical, though the practical results are attained by scientific methods and scientific study. These have already repaid the state a thousandfold its wise expenditure. I have only time to give two instances. The cod is a most important fish for the coast of North America; but the cod loves the colder coasts of British America more than the warmer shores of the United States. The grey cod used to be only a winter fish in the bays of the States; for in summer it goes to Newfoundland, to get the cooler waters of the Arctic stream. Nothing would appear more hopeless than to alter the habits of fish; but science is never discouraged as long as she works within natural law, and even this has been accomplished. The cod is a most prolific fish, as a full-sized one weighing 99 lbs. has as many as 9,000,000 eggs. The artificial incubation of these is now so well understood in the hatching ponds of the States, that it is carried on with perfect success. Let us assume that only fifty full cod are used for artificial incubation, then the young produced would be 450 millions. Now, the whole catch of cod by human agencies on the coasts of North America is only 150 millions, so that fifty cod, so treated, would more than suffice to produce that number. Man, however, is an insignificant factor in the destruction of fish, for they have many enemies even of their own kind to encounter. The blue fish, which abounds on the American coasts, is a cruel tiger of the sea. It does not swallow other fish for food, but it snaps a mouthful out of one fish and then attacks another in a like way, eating, it is believed, its own weight of fish for food daily. This and the other enemies to the young cod, interfered greatly with the labours of the artificial incubation; but persistence has been rewarded with success. The cod thus artificially hatched are attached to the place of their birth, and do not seem to know their way to the coasts of Newfoundland; and so they keep to the shores of the States, and are now freely caught in summer, being called by the fishermen "Commission cod." If I do not tire you, let me give one other instance.

The American shad is a fish greatly esteemed by our Transatlantic kin. It only spawns on the sea coasts at a temperature within a few degrees of 60 F. If cold rains lower the temperature to 55, or if hot weather raises it to 65, the shad run out to sea to spawn. Formerly, after a cold or hot spell of this kind, the fishermen knew that in the fourth year after it there would be a famine of shad, but this occurs no longer; for the Commission vessels now follow the shad to sea, secure their eggs, and hatch them artificially. So no famine is now known. Although I would have preferred to support the motion for marine laboratories more on the ground of their importance to abstract science than to show those who look to practical applications the enormous benefits which come from a study of the habits of marine life, yet had I time, I could refer to the important applications made recently in the United States on the subject of oyster cultivation, and to the valuable and interesting paper of Professor Cossar Ewart on the spawning of herring in Scotland—a subject familiar to the Chairman and less familiar to myself, though we both served in a Commission on the herring fishery. Those who love science for its own sake will largely promote it by aiding to establish marine laboratories in this country, and those who know science only through its useful applications to man may feel fully confident that any encouragement which they give to this undertaking will be repaid a hundredfold in proximate, if not in immediate, benefits to the human race.

The Earl of DALHOUSIE, in supporting the resolution, said that he did so especially in relation to the practical part of the question. Professor Huxley had referred to the wonderful hypotheses of the fishermen on the British Coast in regard to the habits and movements of fish. He (the speaker), had been Chairman of a Commission appointed to enquire into certain difficulties between fishermen who used nets and lines, and those who used trawls. He informed himself as far as he could of all that was practically known in regard to the fish. He

devoured a large number of blue-books, etc., and was sorry to say that ignorance with regard to the habits of the fish appeared to be by no means confined to the poor fishermen of the coast. The complaint was, that all along the coast the fish have deserted the inshore districts, and gone to sea—and nobody knew why. If the Americans had been able to bring the cod so far, it ought to be in the power of the Society now about to be formed to devise means of bringing the fish inshore after they had gone out to sea. As a testimony to the great importance which was attached to the foundation of the proposed Society, he might mention that since he had entered this room he had seen present every member of the Government Commission on trawling, of which he had spoken.

Professor FLOWER, F.R.S., P.Z.S., Director of the British Museum (Natural History), also supported the resolution. He quite agreed with the Duke of Argyll, that they could hardly complain of the Government when they saw the magnificent manner in which our national collections of zoology were housed. But before they could exhibit their specimens, they must catch them, and he ventured, in addition to the admirable arguments of the mover and seconder, to suggest that these laboratories would be the means of supplying not only our great national museums, but all the local museums throughout the British Islands, with specimens which would bring home to all the population in the country, a knowledge of the wonderful forms of sea life. It was quite impossible at the present time to get a really systematic collection of specimens. This alone would be a good reason for establishing such laboratories as the new Society contemplated.

Dr. W. B. CARPENTER, C.B., F.R.S., then moved :—"That it is desirable to found a society, having for its object the establishment and maintenance of at least one such laboratory at a suitable point on the coast, the resources of the laboratory, its boats, fishermen, working rooms, &c., being open to the use of all naturalists under regulations hereafter to be determined." He had for a great many years taken a great interest in this

particular subject, and would like to supplement what Sir Lyon Playfair had stated in regard to the American work of this kind by reading the programme laid down in the very first report which Professor Spencer Baird, who had the organization of this Commission in the year 1874, had issued:—

Extract from the First Report of the UNITED STATES COMMISSION OF FISH AND FISHERIES (1873), pp. xiii., xviii.

“The objects of the investigation, as authorized by Congress, were, *first*, to determine the facts as to the alleged decrease of the food fishes ; *secondly*, if such a decrease be capable of substantiation, to ascertain the causes of the same ; *thirdly*, to suggest methods for the restoration of the supply ; and *fourthly*, to work out the problems connected with the physical characters of the seas adjacent to the fishing localities, and the natural history of the inhabitants of the waters, whether vertebrate or invertebrate, and the associated vegetable life.

“The history of the fishes themselves would not be complete without a thorough knowledge of their associates in the sea, especially such as prey upon them, or in turn constitute their food.

“Furthermore, it was thought likely that peculiarities in the temperature of the water at different depths, its chemical constitution, the per-centage of carbonic acid and of ordinary air, its currents, &c., might all bear an important part in the general sum of influences upon the fisheries ; and the inquiry, therefore, ultimately resolved itself into an investigation of the chemical and physical characters of the water, and of the natural history of its inhabitants, whether animal or vegetable. It was considered expedient to omit nothing, however trivial or obscure, that might tend to throw light upon the subject of inquiry ; as without such thorough knowledge, it would be impossible to determine with precision the causes affecting the abundance of animal life in the sea, and the methods of regulating it.”

Turning to the scientific object of these enquiries, Dr. Carpenter remarked that he recollected the very beginning, he might

almost say, of the modern mode of the investigation of development. He could remember the sensation produced among naturalists by the publication of the researches of Vaughan Thomson, a retired army surgeon living at Cork, which first taught them something of the development of crustacean life, which showed them what had been regarded as independent animals—the Zoœa, were really the young of the common crab, and who pointed out that still more remarkable fact, that the barnacles and sea-acorns were really modified forms of crustacea: These opinions were all pooh-poohed, and papers were published by the Royal Society to show that Mr. Thomson was all wrong, but yet his researches proved perfectly correct. He remembered hearing while at Edinburgh nearly fifty years ago, that Sir John Dalyell, a man of property and of scientific habit of mind, was engaged in biological investigations. Sir John Dalyell got information from all the fishermen round Scotland, and made most wonderful observations. His extraordinary discoveries were not believed by anybody. They related to the development of medusæ from polyps. These researches were not published until after their substantiation by foreign naturalists, though they had been discovered long before by Sir John; and so he might go on to show how large a proportion of the valuable work which had given them new ideas of marine animal life, had been inaugurated in this country. He would especially refer to an incident which took place at the first meeting of the British Association at Southampton, to which Edward Forbes brought an *Amphioxus* which he described in his inimitably humorous way, pointing out how it was a vertebrate animal without a vertebral column, how it belonged to the red-blooded order, and had white blood, and how its pharynx was the pharynx of an ascidian. They all now looked upon the *Amphioxus* as the sole survivor of the marvellous group which formed the link between the Vertebrata and the Invertebrata. These were the studies which formed the life blood of biological science, and considering what had been done in this country

previously it would now be shameful if we were to allow ourselves to fall behind in these enquiries. He knew Professor Agassiz's laboratory at Newport, and all the admirable laboratories sustained by the John Hopkins University of Baltimore, and by the biological station at Naples and other places, and in order to persuade the Government that such things as these were really of national importance and deserving of national encouragement, it was for all interested in biological enquiry to do their very utmost to sustain an organization which would show what even one station well worked could do.

Sir JOHN LUBBOCK, Bart., F.R.S., was glad to second the resolution as President of the Linnean Society, and as a Trustee of the British Museum. A great deal more biological work might be accomplished with some organized assistance, such as that proposed, in the foundation of a well-equipped laboratory. There were as good fish in the sea as ever came out of it, and he thought there were many interesting and good ones, from a scientific point of view, that had never come out of it yet. He trusted that the inauguration of this Society might be the means of supplying many interesting contributions to the British Museum, and also to the Royal, the Linnean, and other Societies. The proposal was also of great practical importance, and he hardly knew whether the results were likely to be of greater utility from a scientific or practical point of view.

Dr. ALBERT GÜNTHER, F.R.S., Keeper of the Zoological Collections of the British Museum (Natural History), had spoken to many friends, both scientific and non-scientific, and had generally met with a great desire to assist an undertaking like the present one, which promised such great benefits for science, and such practical advantages for the people. It was but human that most of them desired to have the idea taken up by a society, in the management of which they might have a voice. In the successful management of the proposed zoological observatories a good many different qualifications

would be required. It was not a zoological station alone, but a biological one, which it was proposed to establish, and, therefore, for the interests of botany as well as of zoology. A good deal of technical knowledge of dredging, etc., would be required. All those qualifications could in no way be better combined than on such a basis as was promised by the council of a representative society, to which men of various qualifications would be elected. Before he came to that meeting he did not feel quite sure whether the proposal would meet with such general approval as had been the case. He had now no doubt about the success of the movement. It was much better to establish these laboratories by means of a Society than by the isolated enterprise of a few individuals.

In the absence of the Lord Mayor, who had expressed his intention of being present, but was detained by a meeting in the City, Sir JOSEPH HOOKER, K.C.S.I., F.R.S., moved—"That this meeting does hereby agree to constitute itself such a Society under the title of 'The Society for the Biological Investigation of the Coasts of the United Kingdom.' " This was, he said, an effort which would have the hearty appreciation and strong support of the scientific bodies of the country. It was an important fact that the British coast was the richest area in the world for seaweeds. There was no country in the world which had contributed so much to the knowledge of algæ as England. He thought there were no scientific bodies who would not take the liveliest interest in the efforts of the new Society, and that its foundation was full of promise for the future of Biology.

Professor MOSELEY, F.R.S., observed that it was only by means of a regular station, at which systematic work could be carried out continuously, that any progress could be made in the investigation of the conditions of our coast. The work already done had been done in an unconnected way. The difficulty of investigating some of our commonest animals would be understood when he mentioned that a scientific friend of his for many years had wished to work out the development of the common limpet, of

which as yet nothing was known. This animal was one of the most important of the mollusca, both scientifically and commercially. His friend had been to the coast at various seasons to get the eggs and watch their development, but had failed, and up to this day this most important piece of work had never been accomplished. Under the new Society they would, during the very first year of the continuous working of a laboratory, get to know pretty thoroughly the development of the limpet. He did not think that any investigation not of a strictly scientific character was of much value with regard to practical results. It was only by the most thorough scientific work that we should ever arrive at the increasing of our supplies of oysters and lobsters. This year most interesting results have been obtained in the United States with regard to the oyster. With regard to the furtherance of biological science generally, the more they understood animal life the more they found that all animals had gone through a littoral phase. Animals may have originated in the open sea, but all animals seem to have passed through a littoral stage. From the littoral condition of animals are derived all the animals of the deep sea. All terrestrial animals have come from the shores. Even in man himself there were structures in the embryonic state only to be explained on the theory that his ancestors had lived in the waters of the sea-shore.

Dr. SORBY, F.R.S., said that some years ago he was anxious to assist in such an institution as that now proposed, and also to bear some of the cost. He hoped now to render some assistance to the new Society, seeing that he lived half the year in his yacht, carrying on investigations, some of which he intended soon to communicate to the Royal Society. He was desirous of taking an active part in the work of the Society.

Sir WILLIAM BOWMAN, F.R.S., moved: "That the following gentlemen be requested to act as a provisional council, and report to an adjourned meeting, to be held on Friday, May 30th, as to the constitution and organization of the Society, and other matters, and in the meantime have power to admit suitable

persons to the membership of the Society ; further, that Professor Lankester be asked to act as Secretary, and Mr. Frank Crisp as Treasurer *ad interim*." Those named were the Duke of Argyll, the Earl of Dalhousie, Lord Arthur Russell, the Lord Mayor, the Prime Warden of the Fishmongers Company, the President of the Royal Society (Professor Huxley), the Presidents of the Linnean (Sir John Lubbock), Zoological (Professor Flower), and Royal Microscopical Societies (Dr. Dallinger), Dr. W. B. Carpenter, C.B., F.R.S., Mr. W. S. Caine, M.P., Mr. Frank Crisp, V.P. & Treas. L.S., and Sec. R.M.S., Mr. Thomas Christy, F.L.S., Mr. Thiselton Dyer, F.R.S., C.M.G., Mr. John Evans (Treasurer of the Royal Society), Dr. Albert Günther, F.R.S., Sir Joseph Hooker, K.C.S.I., Professor Michael Foster (Secretary of the Royal Society), Professor Ray Lankester, F.R.S., Professor Ewart, F.R.S.E., Professor Milnes Marshall, Professor Moseley, F.R.S., Mr. John Murray, F.R.S.E., the Rev. Dr. Norman, F.L.S., Sir Lyon Playfair, K.C.B., Mr. George J. Romanes, F.R.S., Professor Burdon Sanderson, F.R.S., Dr. Selater, F.R.S., Mr. Adam Sedgwick, Mr. Percy Sladen, F.L.S., Dr. H. C. Sorby, F.R.S., and Mr. Charles Stewart, F.L.S.

Mr. GEORGE J. ROMANES, F.R.S., seconded the resolution, saying that he thought he should not be able to express his view more strongly than by saying that in his opinion the proceedings of that afternoon had been taken many years too late. When we remembered our great maritime power, that our coasts extended for tens of thousands of miles, and in all latitudes, and that England was mistress of the seas, it seemed to him nothing short of a national disgrace that we alone should have been so long content with having hitherto done little or nothing in the way of systematic investigation of the marine zoology of our own shores. But if such had been our amazing apathy in the past, the best they could do was to retrieve the error by striking while the iron was hot, viz., by constituting themselves a Society, with an executive committee. The list of names was one of very great force, and it would be difficult to add to its force. Professor

Flower had said that each speaker should contribute one point to the discussion. He (Mr. Romanes) should like to observe that there was one function of the proposed laboratory which had not received the attention it appeared to him to deserve; he meant the investigation of invertebrate physiology. In the invertebrate forms of life we saw life in its simplest shape, and in the shape which best admitted of observation and experiment with the view of throwing light upon most of the great questions relating to the processes of life. Where were they to look for the material for this investigation? Unquestionably to the sea, which was the great magazine of such life. He therefore looked forward with some confidence to the time when it would certainly not be considered the least important function of the newly-formed Society, to investigate the physiology of the invertebrate forms of life.

Professor LANKESTER moved a vote of thanks to Professor Huxley for taking the chair, which was seconded by Sir JOSEPH FAYRER. Before putting the vote, Professor Lankester mentioned that it was hoped that they might raise a fund of from £6,000 to £10,000 for the purpose of starting one laboratory, and it would now be possible for individuals who took an interest in the proceedings of the Society, to send to the Treasurer, Mr. Frank Crisp, cheques for £100 or £1,000 to start the fund. If those who believed in the utility of the Society, and its projected laboratory, were prepared to subscribe generously to the Laboratory Fund, the anticipations of those who had spoken so hopefully of the work taken up by the Society would be speedily realised.
